

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 30-5000-(4015)-Div3		SERIAL NO. 09/783,835				
		APPLICANT Shozo Nagano et. al.						
		FILING DATE February 14, 2001		GROUP 1742				
LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)								
U.S. PATENT DOCUMENTS								
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
	AA							
	AB							
	AC							
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FOREIGN PATENT DOCUMENTS								
		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	AM							
	AN							
	AO							
	AP							
	AQ							
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)								
3	AR	*	Brizzolara et. al., Low Energy Sputtering of Eutectic Ag/Cu Alloys, B26 NUCLEAR INSTRUMENTS AND METHODS IN PHYSICS					
			RESEARCH 528-531 (1987).					
	AS							
	AT							
EXAMINER S. Ig				DATE CONSIDERED 7/1/02				
<small>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</small>								

Form 1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 30-5000-(4015)-Div3		SERIAL NO. 09/783,835				
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OF ART CITED BY APPLICANT (Use several sheets if necessary)								
U.S. PATENT DOCUMENTS								
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
E	AA	3,866,886	05/30/72	Haertling	252	62.9		
I	AB	3,923,875	12/02/75	Mazdiasni et al.	252	62.9		
I	AC	5,066,817	11/19/91	Tanemoto et al.	501	134		
E	AD	5,314,651	05/24/94	Kulwicki	284	65		
	AE							
	AF							
	AG							
	AH							
	AI							
	AJ							
	AK							
FOREIGN PATENT DOCUMENTS								
		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
E	AL	06081138 J	03.01.94	Noda et al.			Abstract	
E	AM	09249957 A	22.09.87	Watanabe et al.			Abstract	
	AN							
	AO							
	AP							
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)								
E	AR	<input checked="" type="checkbox"/>	Foster, Composition and Structure of Sputtered Films of Ferroelectric Niobates, 8 THE JOURNAL OF VACUUM SCIENCE AND TECHNOLOGY, No. 1,					
			pp. 251-255 (1971).					
E	AS	<input checked="" type="checkbox"/>	Haertling, Hot-Pressed Ferroelectric Lead Zirconate Titanate Ceramics for Electro-Optical Applications, 49 CERAMIC BULLETIN, No. 6,					
			pp. 564-567 (1970).					
	AT							
EXAMINER S. 38				DATE CONSIDERED 2/1/02				
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Shozo Nagano et al.FILING DATE
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*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
3	AA	6,113,781	09/05/00	Kardokus et al.	204	298.13	
2	AB	6,093,966	07/25/00	Venkatraman et al.	257	751	
	AC						
	AD						
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	AG						
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FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
3	AL	01096376 A	14.04.89	Japan (ABSTRACT)	1	1		
3	AM	10287939	27.10.98	Japan (ABSTRACT)	1	1		
	AN							
	AO							
	AP							

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)

3	AR	Phillips et al., <i>The Effect of Certain Solute Elements on the Recrystallization of Copper</i> , 81 JOURNAL OF THE INSTITUTE OF METALS 185-208 (1953).
3	AS	ABSTRACT: Pierson et al., <i>Total sputtering yield of Ag/Cu alloys for low energy argon ions</i> , § B NUCL. INSTRUM. METHODS PHYS. RES. 108(3), pp. 290-9 (1996).
	AT	

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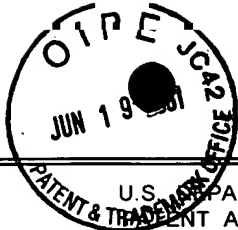
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Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 30-5000-(4015) Div. 3		PRIORITY SERIAL NO. 09/449,025	
LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)				APPLICANT Shozo Nagano et al.		PRIORITY FILING DATE November 24, 1999	
				PRIORITY GROUP 1775			
U.S. PATENT DOCUMENTS							
*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
B	AA	5,972,192	10/1999	Dubin et al.	1	1	
B	AB	5,719,447	02/1998	Gardner	1	1	
	AC						
	AD						
	AE						
FOREIGN PATENT DOCUMENTS							
	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	AF						
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)							
B	AG		Electromigration Properties of Copper-Zirconium alloy Interconnects, Y. Igarashi et al., <i>J. Vac. Sci. Technol. B</i> 16(5), Sept/Oct. 1998, p. 2745-2750.				
	AH		Directional and Preferential Sputtering-Based Physical Vapor Deposition, S.M. Rossnagel, 1995 <i>Elsevier Science S.A.</i> , p. 1-12.				
	AI		Excellent Electro/Stress-Migration-Resistance Surface-Silicide Passivated Giant-Grain Cu-Mg alloy Interconnect Technology for Giga Scale Integration (GSI), T. Takewaki et al., 1995 <i>IEEE</i> , p. 95-253-95-256.				
	AJ		Materials Issues in Copper Interconnections, J.M.E. Harper, et al., <i>MRS Bulletin/August 1994</i> , p. 23-29.				
	AK		Preparation of Low Resistivity Cu-1 at. %Cr Thin Films by Magnetron, C. Cabral, Jr., et al., <i>Journal of the Institute of Metals</i> , June 1951, p. 185-208.				
B	AL		International Critical Tables of Numerical Data, Physics, Chemistry and Technology, <i>National Research Council of the United States of America</i> , Volumes I-VII, 1933, 6 pages.				
EXAMINER <div style="text-align: center;">S. Jp</div>				DATE CONSIDERED <div style="text-align: center;">7/1/02</div>			
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FILING DATE
February 14, 2001GROUP
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*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
2	AA	5,023,698	06/11/91	Kobayashi et al.	357	67	
	AB	5,833,820	11/10/98	Dubin	204	212	
	AC	5,895,562	04/20/99	Dubin	205	137	
3	AD	6,162,726	12/19/00	Dubin	438	678	
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		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
2	AL	0 335 383 A2	30.03.89	Europe (Kobayaashi et al.)				
2	AM	0 626 722 A1	09.02.93	Europe (Ohmi)				
2	AN	WO 00/73531 A2	07.12.00	WIPO (Kardokus et al.)				
	AO							
	AP							

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)

2	AR		Massalski, 18 BINARY ALLOY PHASE DIAGRAMS 18-19, 928-929, 936-937, 964-965 (1986).
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Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 30-5000-(4015)-Div3		SERIAL NO. 09/783,835	
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*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate	
2	AA 4,676,827	6-30-87	Hosoda et al.				
	AB 4,988,856	1-22-91	Tanigawa et al.				
	AC 5,077,005	12-31-91	Kato				
	AD 6,117,781	9-12-00	Lukanc et al.				
	AE 6,117,782	9-12-00	Lukanc et al.				
	AF 6,121,150	9-19-00	Avanzino et al.				
3	AG 6,197,433	3-6-01	Hatano				
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						Yes	No
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	AM						
	AN						
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